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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/627,206  
Filing Date: July 24, 2003  
Appellant(s): RINGERMACHER ET AL.

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Penny A. Clarke  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed May 18, 2009 appealing from the Office action mailed November 26, 2008.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

No amendment after final has been filed.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

3675074	Dennewitz	07-1972
Article 1	Front Flash Thermal Imaging	01-1999

Characterization of  
Continuous Fiber Ceramic  
Composites, Deemer et al.  
Article 11                      Integrated Gate-                      05-1997  
                                    Communicated Thyristors,  
                                    Carroll et al.

### **(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

#### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15-20, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Front Flash thermal imaging characterization of continuous fiber ceramic composites. Article by Deemer et al. Jan, 25, 1999 [hereinafter Article 1] in view of Dennewitz (U.S. 3675074)

Article 1 discloses in Fig. 1 a thermography IR imaging device wherein a thermal pulse is applied with a photographic flash lamps heating an object/ sample, an IR camera configured to capture plurality of images/ frames, a shutter electronics (logic control) including: dual timing, TTL and Flash bank (actively quenching means) configured to shut the flash lamps and thus, to actively cool them. It is inherent, that the lamps are **off** for some period of time, and **on** for some (other) period/ duration of time.

Although it is known in the art that any device should have an initial control to initiate an action (i.e., power on/ off), Article 1 does not explicitly teach a control signal T2, in combination with the remaining limitations of claims 15-20 and 24. Article 1 does not explicitly teach to quench the lamp so as to control the lamp duration.

Dennewitz discloses an active quenching device to quench/ control the duration of a flash 1 by receiving a control signal generated by an IC/ control circuit comparator circuit (timing generator) 14, 16 and reversing state of a Schmitt trigger (switch) 13 to disable a bipolar transistor 4 (a combination of the Schmitt trigger and the bipolar transistor 4 is acting as an active quench) and to terminate the flash by reversing (disabling/ opening) the switch in response to a control signal (T2) sent to the Schmitt trigger/ switch 13, the flash 1 stays quenched/ off for a duration of time (col. 2, line 60) while the timing generator 14, 16 maintains the transistor 4 closed (col. 2, lines 65-68). When an igniting pulse and voltage (lamp trigger signal T1) are applied to the flash 1 by means of a timing generator 14, 16 by reversing (closing) the switch 13 (in response to an initial control signal T0), it starts emitting energy and causes current through the resistor 5 and the interval starts (time duration) when the flash emits light (col. 3, line 42) and thus activated (in response to T0 and T1). When the flash duration persists for a time (time duration) long enough, the comparator (timing generator) 14, 16 again assumes a second state, wherein the Schmitt trigger 19 will be reversed (T2) again and disables/opens the transistor 4, and the flash energy ceases (quenching is activated). Therefore, the timing generator 14, 16 is producing an initial control signal (T0) when the flash 1 does receive a current flow and does emit the energy, and a second control signal (T2) when the timing generator 14, 16 reverses the state of the Schmitt trigger and the transistor 4 is disabled/ opened and the current is not allowed to flow through the flash 1 and the flash 1 does not emit energy (state of quenching) (col. 1, lines 63-68).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the logic control/ timing generator, disclosed by Article 1, so as to have a control having timing duration control so as to control the flash lamp, as taught by Dennewitz, in order to prevent it from overheating and provide a proper operation so as to prolong its life by allowing it to cool, as very well known in the art.

Claims 21-22 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Article 1 and Dennewitz as applied to claims 15-20 and 24 above, and further in view of INTEGRATED GATE-COMMUTATED THYRISTORS. Article by Carroll et al., May 1997, [hereinafter Article 11].

Article 1 and Dennewitz disclose the device as stated above in paragraph 2.

They do not explicitly teach that the switch is a power semiconductor switch/ an insulated gate bipolar transistor.

Article 11 teaches to use a power semiconductor switch such as IGCT or MOSFET or IGBT since they have very good performance in power and temperature cycling.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the switching device disclosed by Article 1 and Dennewitz with a switching device, as taught by Article 11, because power semiconductors known as IGCT have high speed and reliability, as already suggested by Article 11, and thus high performance ensuring a high accuracy of cooling the illuminating device.

#### **(10) Response to Argument**

Appellant argues that neither Article 1 nor Dennewitz describe an active quench. Please note, the Appellant has never defined the active quench as something different from what is described by the references, therefore, in the Examiner's interpretation (broadest reasonable interpretations), the fact that the device (actively) turn on/ off the lamp, could be considered as an active quench unless otherwise defined by the Appellant in the claims.

With respect to Dennewitz: Appellant states that Dennewitz does not teach a timing generator configured to supply the control signal T2, and that the duration control in Dennewitz is determined by reflection for the return signal from the illuminated object. Appellant states that Dennewitz uses a photosensitive element to detect a portion of the light reflected from the object to form a control signal and that the quench time is determined by the reflection time as opposed to the instant invention. This argument is not persuasive because:

- A) the arguments with respect to using reflection/ photosensitive element is irrelevant: if the reference includes an additional structure (feature) not required by Appellant's invention, it must be noted that the reference discloses the invention as claimed. The fact that it discloses additional structure (feature) not claimed by Appellant is irrelevant.
- B) the entire system that controls duration in Dennewitz is a timing generator because it does the same function that the timing generator claimed by Appellant, and because Appellant does not claim any feature that would make the timing generator of the instant invention different from the one described in the prior art references.
- C) Appellant states that the transistors in Dennewitz do not function to control the duration because the flash itself fulfill this function (function of the timing generator). This

argument is not persuasive because the combination of elements of Dennewitz (as explained in the rejections) including transistors, does control duration.

Appellant states that the quench time of Dennewitz is fixed based on the reflection.

This argument is not persuasive because the Appellant has never claimed that the quench time is not fixed (variable). It is the claims that define the claimed invention, and it is claims, not specification that are anticipated or unpatentable. Constant v. Advanced Micro-Devices, Inc., 7 USPQ2d 1064.

Appellant states that the quench in Dennewitz is passive, not active because the duration is passively controlled based on reflection time for the return signal. Appellant states that this is in the opposition to the instant invention where, according to Appellant “Claim 15 creates a completely new synergy, namely, control of flash duration independent of the flash itself”. This argument is not persuasive because this limitation has been claimed neither in claim 15 nor in other claims. Appellant only names the quench as an active quench, but has never described any particular feature (i.e., admission of coolant, etc.) which would define the quench as an active quench. It is the claims that define the claimed invention, and it is claims, not specification that are anticipated or unpatentable. Constant v. Advanced Micro-Devices, Inc., 7 USPQ2d 1064.

Appellant states that the Examiner’s interpretation of claim 15 is wrong in that claim 15 recites a timing generator to supply a controlT2, and discussion of an active quench in the specification.

This argument is not persuasive because the Article 1 teaches a timing generator (on/ off of the lamp) but does not teach a timing generator providing time duration, however, Dennewitz teaches these limitations. Therefore, the combination of the references teaches the claimed invention.

Appellant states that in the instant application, the “active control of the duration of the flash permits the selection of the desired flash duration” (in contrast to Dennewitz). Once again, this

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argument is not persuasive because this limitation (selection of desired flash duration) has not been claimed. Appellant states that the specification teaches that the “flash duration D=T2-T1 varies by application”, however this limitation has not been claimed in claim 15. It is the claims that define the claimed invention, and it is claims, not specification that are anticipated or unpatentable. Constant v. Advanced Micro-Devices, Inc., 7 USPQ2d 1064.

Even in claim 16 when the Appellant states that the “active quench... is configured to allow a current... in response to the initial control signal”, the “active” quench has not been defined, and the term “to allow to” is not a positive statement, therefore, Appellant: A) has never positively claims this limitation (see: “configured to allow”, and B) it is not clear if this current of claim 16 is an active quench itself or could it be interpreted that this current is an operational current that could be admitted to the lamp in a final stage of the quench in order to start the lamp (since the Appellant has never stated/ claimed that **the initial signal T0 activates the active quench so as the quenching current is admitted to the lamp**).

Since the Appellant does not define the active quench in the claims, the Examiner, in the broadest reasonable interpretation, considers that any quench that is performed by any intention/ initiation/ control is an active quench signal. In Dennewitz, the quench is initiated by opening/ closing (reversing the state) of switches to allow the lamp to quench by deactivation of the lamp.

Appellant states that Deemer (Article 1) does not show a need of an active quench. This argument is not persuasive because Deemer teaches to cool the flash by actively shutting it off.

## (11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner’s answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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